PENGEMBANGAN APLIKASI *MOBILE* BAHAN AJAR IPA *SOCIOSCIENTIFIC ISSUES* TENTANG PERUBAHAN IKLIM UNTUK MENINGKATKAN KETERAMPILAN PEMBUATAN KEPUTUSAN SISWA

TESIS

Diajukan untuk Memenuhi Sebagian dari Syarat untuk Memperoleh Gelar Magister Pendidikan Program Studi Pendidikan IPA

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PERNYATAAN

Dengan ini saya menyatakan bahwa tesis dengan judul **"Pengembangan Aplikasi *Mobile* Bahan Ajar IPA *Socioscientific Issues* tentang Perubahan Iklim untuk Meningkatkan Keterampilan Pembuatan Keputusan Siswa"** ini beserta seluruh isinya adalah benar-benar karya saya sendiri dan saya tidak melakukan penjiplakan atau pengutipan dengan cara yang tidak sesuai dengan etika keilmuan yang berlaku sesuai dengan Peraturan Menteri Pendidikan Nasional Republik Indonesia No. 17 tahun 2020 tentang Pencegahan dan Penanggulangan Plagiat di Perguruan Tinggi. Apabila di kemudian hari, ada pelanggaran yang ditemukan pada tesis ini dan/atau pengaduan dari pihak lain terhadap keaslian karya ini, saya bersedia menanggung sanksi yang dijatuhkan kepada saya.

Demikianlah pernyataan ini dibuat dengan sungguh-sungguh tanpa pemaksaan dari pihak manapun.

Bandung, Agustus 2023

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui karakteristik aplikasi *mobile* bahan ajar IPA *socioscientific issues*, kelayakannya serta peningkatan keterampilan pembuatan keputusan siswa setelah menggunakan bahan ajar. Subjek penelitian ini adalah siswa kelas VII SMP. Desain penelitian yang digunakan adalah *Design Based Research* sedangkan metode yang digunakan untuk mengembangkan aplikasi *mobile* bahan ajar IPA *socioscientific issues* ini adalah *Four Steps Teaching Material Development*. Instrumen yang digunakan dalam pengambilan data adalah angket validasi kelayakan produk, angket keterpahaman teks, dan tes tulis keterampilan pembuatan keputusan. Bahan ajar ini memuat fitur-fitur yang dapat membantu siswa untuk berlatih keterampilan pembuatan keputusan. Terdapat tiga wacana teks dilema *socioscientific issues* serta langkah-langkah pengambilan keputusan untuk menemukan solusi terbaik dari dilema yang diberikan. Penilaian kelayakan bahan ajar didasarkan pada aspek materi dan aspek media. Rata-rata kelayakan pada aspek media dan materi berturut-turut sebesar 94,00 dan 95,28 sehingga berada pada kategori sangat layak untuk digunakan dalam pembelajaran. Hasil implementasi penggunaan aplikasi *mobile* bahan ajar IPA *socioscientific issues* ini pada pembelajaran terbukti efektif untuk meningkatkan keterampilan pembuatan keputusan siswa dengan hasil uji *T test* sebesar *Sig. (2-tailed)* sebesar 0,000. Rata-rata N-Gain kelas yang menggunakan aplikasi *mobile* bahan ajar IPA *socioscientific issues* sebesar 0,50 pada kategori sedang dibandingkan dengan kelas yang tidak menggunakan bahan ajar sebesar 0,23 pada kategori rendah. Berdasarkan uji *effect size* didapatkan bahwa bahan ajar IPA *socioscientific issues* memiliki pengaruh yang sangat tinggi terhadap peningkatan keterampilan pembuatan keputusan dengan skor 1,8. Hasil ini menunjukkan bahwa bahan ajar IPA *socioscientific issues* efektif untuk meningkatkan keterampilan pembuatan keputusan siswa.

Kata Kunci: Bahan Ajar *Socioscientific Issues*; Keterampilan Pembuatan Keputusan

The Development of a Mobile Application for Socioscientific Issues Science Teaching Material on Climate Change to Enhance Students' Decision-Making Skills.

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ABSTRACT

This study aims to determine the characteristics of mobile applications for socioscientific issues science teaching materials, its feasibility and the improving of students' decision-making skills after using teaching materials. The subjects of this research were class VII students of junior high school. The research design used was Design Based Research while the method used to develop a mobile application for socioscientific issues science teaching materials was Four Steps Teaching Material Development. The instruments used in data collection were product feasibility validation questionnaires, text comprehension questionnaires, and decision-making skills written tests. This teaching material contains features that can help students to practice decision-making skills. There are three discourses on the text of the socioscientific issues dilemma and decision-making steps to find the best solution to the given dilemma. Assessment of the feasibility of teaching materials is based on material aspects and media aspects. The average feasibility of media and material aspects is 94.00 and 95.28 respectively, so it is in a very feasible category for use in learning. The results of the implementation of the use of the socioscientific issues science teaching material mobile application in learning proved effective in improving students' decision-making skills with a T test result of Sig. (2-tailed) of 0.000. The average N-Gain class using Android-based SSI teaching materials was 0.50 in the medium category compared to classes that did not use socioscientific issues teaching materials based on Android of 0.23 in the low category. Based on the effect size test, it was found that science teaching materials for socioscientific issues had a very high influence on improving students' decision-making skills with a score of 1.8. These results indicate that science teaching materials on socioscientific issues are effective for improving students' decision-making skills.

Keywords: Socioscientific-Issues Teaching Materials; Decision-Making Skills

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